

***United States Court of Appeals
for the Second Circuit***



**APPELLANT'S
BRIEF**

75-7362

**United States Court of Appeals
FOR THE SECOND CIRCUIT**

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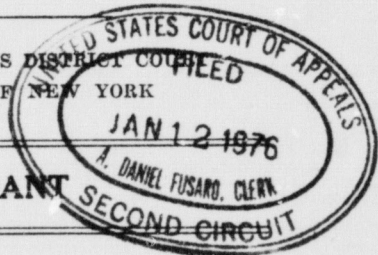
Docket No. 75-7362

PERMA RESEARCH & DEVELOPMENT COMPANY,
Plaintiff-Appellee,
v.

THE SINGER COMPANY,
Defendant-Appellant.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

BRIEF OF APPELLANT



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Docket No. 75-7362

PERMA RESEARCH & DEVELOPMENT COMPANY,
Plaintiff-Appellee,
v.
THE SINGER COMPANY,
Defendant-Appellant.

PRELIMINARY STATEMENT

Defendant-appellant The Singer Company ("Singer") appeals from the decision and judgment entered June 3, 1975 as amended June 16, 1975 in the amount of \$6,905,376.69 in favor of plaintiff-appellee Perma Research & Development Company ("Perma") rendered after trial by the Honorable Kevin T. Duffy, United States District Judge for the Southern District of New York (R 132, 136, 142)*. The decision is not reported.

Singer also appeals from the decision and order of the Honorable Lloyd F. MacMahon, United States District Judge for the Southern District of New York, denying its pre-trial motion for summary judgment (R 61). The decision is reported at 308 F. Supp. 743 (1970).

STATEMENT OF THE ISSUES PRESENTED

The issues presented for review are whether, as Singer contends:

1. The Court below committed error in holding that the contract by which Singer purchased Perma's

* Citations to designated portions of the Record on Appeal other than the Opinion of Judge Duffy, the trial transcript, and exhibits will be preceded by "R" and located in Volume I of the Joint Appendix. Citations to Judge Duffy's Opinion, located in Volume I of the Joint Appendix, will be preceded by "Op". Citations to designated portions of the trial transcript, located in Volumes II-IV of the Joint Appendix, will be preceded by "Tr". Citations to designated plaintiff's exhibits, located in Volumes I-III of the Exhibit Binder, will be preceded by "PX". Citations to designated defendant's exhibits, defendant's exhibits for identification, and Court's exhibits, located in Volume III of the Exhibit Binder, will be preceded respectively by "DX", "DX for id", and "Ct X". Since many exhibits do not have serially numbered pages, all exhibit pages, regardless of internal pagination,

rights to an automobile anti-skid device imposed upon Singer an implied obligation to use its best efforts to make the device fail-safe and to perfect it, despite the fact that both parties had by their words and conduct consistently denied the existence of such an obligation.

2. The Court below committed error in finding that the Perma anti-skid device was perfectible and marketable based on the results of computer simulations erroneously received in evidence over Singer's objections to the lack of disclosure of the computer program, the lack of foundation, and the lack of pre-trial notice.

3. The Court below committed error in awarding speculative damages based on the postulated sales of an imaginary anti-skid device—nonexistent as a physical prototype, not portrayed in blueprints or drawings, not described in words, and not defined even by reference to specified performance, reliability or fail-safe standards—for which there was no proven market.

We believe that the Court below committed other errors of both substance and procedure. While we do not press these errors on this appeal, we reserve our position with respect to them in the event of further proceedings.

STATEMENT OF THE CASE

The Nature of the Case

The case was tried as an action for Singer's alleged breach of an implied contractual obligation to use best efforts to perfect and market an anti-skid device for automobiles.

Perma sold its rights to the device to Singer in consideration for, among other things, an interest-free loan in the amount of \$209,697.13 and royalties to be paid by Singer on sales of the device (PX 60A). At the time of sale the device was defective; it was not fail-safe; and it was unmarketable (R 61; 308 F. Supp. at 747-48;

have been numbered consecutively beginning with the first page of the exhibit. Citations to exhibit pages will be in accordance with this numbering.

Tr 2515, 2556). After working with the device for approximately a year, Singer discontinued its efforts to manufacture and market it.

Singer's contentions at the trial, as pressed on this appeal, were (1) that Singer had no obligation to redesign or "reinvent" the device so as to make it fail-safe and marketable, (2) that Perma's claim that the device was capable of perfection and had commercial value was contrary to fact and based on evidence erroneously admitted, and (3) that damages were entirely speculative.

The Court below held that the contract imposed on Singer an implied obligation to use its best efforts to perfect the device and that Singer had breached this obligation (Op 38-40). Judge Duffy found that the device could have been made fail-safe and otherwise perfected and marketed and that Singer would have sold over the royalty period 1,796,582 units for a total of \$91,625,682, upon which Perma was entitled to royalties of \$5,333,423.94 plus pre-judgment interest of \$1,551,224.75 (Op 41-44, 57-58; R 142).

The Course of Proceedings

The complaint was filed on March 9, 1966 (R 1). Extensive pre-trial proceedings then ensued, including active discovery by both sides and three motions for summary judgment by Singer which were denied in whole or in part (R 18, 28, *aff'd*, 410 F.2d 572 (1969); R 61, 308 F. Supp. 743 (1970); R 69).

On the first two summary judgment motions, the Court below rejected every contention made by Perma and dismissed both of its causes of action but nevertheless denied each motion on the ground that a triable issue of fact stemmed from the "Wherefore" clause as to a claim which had been expressly disavowed by Perma. Singer contends on this appeal that one of these rulings was reversible error. We defer further discussion of it until pages 12-13,

infra, because knowledge of the factual background is necessary to an understanding of the ruling.

The trial began on November 5, 1973 before Judge Duffy and a jury (Tr 1). On November 15, 1973, the parties waived a jury and the trial continued before Judge Duffy (Tr 911-12). The trial ended on June 28, 1974 after 70 trial days, 16 witnesses and 8090 pages of transcript (Tr 1-8090).

Judge Duffy's opinion was handed down on April 11, 1975 (R 132). Judgment was entered June 3, 1975 (R 136), and an amended judgment making certain mathematical corrections was entered June 16, 1975 (R 142). Singer filed a notice of appeal and an amended notice on June 13 and June 23, 1975 respectively (R 141, 145). On July 3, 1975, Perma filed a notice of cross-appeal contending that damages should have been awarded for an additional period of time beyond that allowed by Judge Duffy (R 149).

Statement of Facts

The Perma anti-skid device. The subject matter of the suit is the Perma anti-skid device which was developed for use on automobiles by Frank Perrino, the central figure in the case and the founder and president of Perma (Op 5; DX 10). The concept of an anti-skid device was not invented by Perrino (PX 121, p 2).

Perrino had had no formal engineering training. He did not attend high school, but received a high school equivalency certificate during his Air Force service (Tr 98). Plainly, however, he had natural mechanical gifts.*

Perrino became familiar with anti-skid devices on airplanes during his service as a mechanic in the Air Force (PX 20, p 5). In 1955 after his discharge from the Air Force, he began to work on the development of the anti-skid device (Op 5; Tr 103; DX 10). He and two or three col-

* Perrino has other talents as well. Although he did not attend college, he graduated from Portia Law School (Tr 935).

leagues, proceeding with hand-tooled parts and to a large degree by trial and error, advanced the development of the device by 1961 or 1962 to a point where pre-production samples had been made and Perrino deemed the device ready for production (Tr 122-26, 144-45; DX 10).

The Perma anti-skid control was a mechanical device composed of three component assemblies: a wheelspeed sensor attached to the vehicle's transmission, an "anti-skid" unit which incorporated the "mechanical brain" and the "Perma-Vac" which relieved brake line pressure. The Perma device was designed to sense wheel deceleration in order to activate itself, to sense wheelspeed to control the brakes and to sense brake line pressures to shut itself off and restore control of the brakes to the driver near the end of a stop.

Perrino originally sought to sell the device to the auto manufacturers (sometimes referred to as "Original Equipment Manufacturers" or "OEM"). The device was evaluated by Ford, General Motors, Chrysler and American Motors and was rejected by all of them (Op 17; DX 12; PX 25A, 57). In late 1963 or early 1964, Perma undertook on its own to reach the so-called "aftermarket"—that is, to sell to distributors of automobile supplies for resale to car dealers and automotive supply outlets for subsequent resale to the public (Op 7; Tr 180).

Perrino arranged to have the device manufactured for Perma by Worcester Stamped Metal Company of Worcester, Massachusetts (Op 7-8). Worcester Stamped Metal was, like Singer later on, so confident that the device was ready for immediate marketing that it undertook to "finance" the manufacturing; that is, it agreed that it would be paid only as Perma was paid upon the sale of the units (Tr 177-78a). Production commenced in late 1963 or early 1964, and a limited number of the devices were sold (Op 7-8; DX 380). Perma became dissatisfied with Worcester Stamped Metal's quality control and, when production was interrupted by a strike, Perma was in the

market for a new manufacturer (Op 10-11; Tr 289; DX 53, pp 4-5).

In the meantime, Singer had excess capacity at its manufacturing plant in Elizabeth, New Jersey. Singer sought to utilize this excess capacity by engaging in the manufacture of products designed by others to be marketed and sold by them (Op 8; Tr 292; *see* PX 18A). Representatives of Singer learned of the Perma anti-skid device and arranged to meet with Perrino at Perma's office in North Attleboro, Massachusetts, in February, 1964 (Op 8; Tr 285, 287-88). This meeting and subsequent meetings led to a contract dated June 18, 1964 between Perma and Singer.

In the course of the negotiations preceding this contract, Singer was told that the device was "perfected" and that it had been tested "by an independent laboratory" (Op 9). The "independent laboratory" was Motor Vehicle Research of New Hampshire, a private commercial concern wholly owned and operated by Andrew J. White (Op 9; Tr 161; DX 629; *see* DX 10, 19). Singer was given a report prepared by Motor Vehicle Research of New Hampshire (PX 19) as well as a number of other publications which spoke in highly enthusiastic terms about the Perma device (PX 20).

It came to light after this lawsuit was instituted that Motor Vehicle Research was not in fact "independent"; that Andrew J. White had been an early promoter and incorporator of Perma; that he had owned a 10% interest in Perma; and that he had been a director of Perma (Tr 139-41; DX 10, 629). Moreover, White had been paid in Perma stock for preparation of the report, as well as for other promotional efforts (Tr 159, 1044; DX 629).

The Singer people were shown a promotional film which stated, "[t]he Perma anti-skid control * * * includes a fail-safe feature which will automatically revert to the standard braking system in case of failure." (DX 1, p 8; Tr 4145, 6038) Similar statements were made orally to Singer

and appear in Perma literature delivered to Singer (Tr 4126, 4137, 4139, 6013; PX 19, p 6; PX 20, p 8).

Fail safety is of utmost importance in anti-skid devices because such devices are incorporated into the regular brake system of the automobile. It is necessary to protect against the possibility that a malfunction of the anti-skid device will cause a partial or total loss of brakes.

The June contract. On June 18, 1964, the parties entered into a contract pursuant to which Singer agreed to manufacture the device for sale by Perma (PX 35). Under the June contract, Singer's responsibilities were limited to manufacturing "in accordance with specifications and blueprints furnished by Perma" (PX 35, ¶10). It was expressly provided that design changes could not be made without the written approval of Perma (PX 35, ¶9).

Shortly after entry into the June contract, Singer purchased for over \$1,000,000 the tooling and inventory which had been manufactured by Worcester Stamped Metal Company and its subcontractors, and Singer commenced manufacturing the device (Op 12).

Difficulties were, however, soon encountered. Singer discovered that units assembled pursuant to Perma's specifications and instructions were unable to pass assembly tests required prior to shipment to Perma for resale. Pursuant to Perma's written authorizations, changes were made to facilitate manufacture of the device (DX 53, p 7).

Since its responsibility under the June contract was limited to manufacturing, Singer had no occasion to do performance testing (Tr 4235, 5948) or to analyze the failure modes or the fail safety of the device (Op 21; Tr 4148-49, 4236-37, 4476). Its testing of the device during the June contract related only to proper manufacture (Tr 4233-37).

Because of the above described difficulties, only 500 units were shipped to distributors (DX 191, p 2). The lack of sales caused Perma to run low on funds (Tr 456). As a

consequence, Perma approached Singer and proposed a rearrangement of the contractual relationship (DX 191).

Singer commissioned William E. Hill & Company, Inc. to do a survey of the market for the device. On December 14, 1964, this company submitted to Singer a report which predicted no OEM sales and limited aftermarket sales (PX 57). The Hill report made no mention of fail safety, and it assumed that the device was ready to be marketed (PX 57).

The December contract. On December 21, 1964, a new agreement was made which provided that the Perma anti-skid device be acquired by Singer (PX 60A). It is this December contract which has become the subject of the litigation.

Under the December contract, Singer acquired Perma's United States and Canadian rights to the anti-skid device; Singer assumed \$209,697.13 of Perma debts and agreed to pay royalties to Perma on the units sold; and the June "Manufacturing Agreement" was canceled (PX 60A, pp 1-3, 12).

The December contract provided expressly that Singer "in its absolute discretion shall determine the method of manufacturing, exploiting and marketing the Product" (PX 60A, p 15). There was a "reversion clause" which gave Perma the right to reacquire the anti-skid device upon certain terms in the event that Singer failed to spend at least \$100,000 "for marketing, promoting and advertising" in any year beginning with 1966 (PX 60A, pp 13-14).

Contemporaneously, the parties entered into a so-called "Technical Services Contract" under which Perma agreed to render assistance at Singer's request in connection with manufacturing and marketing the device. The agreement was to continue for six months and Singer was to pay Perma \$9,800 per month (DX 656, pp 3-5).

Both parties expected the anti-skid device to be marketed promptly (Op 18). Singer resumed production (Tr 4517).

On January 18, 1965, Singer entered into an agreement with Monitor Enterprises, Inc., a distributor of auto accessories, under which Monitor agreed to purchase a minimum of 50,000 units in 1965 and to spend a yearly minimum of \$250,000 on "promotional and advertising expenses" (PX 64).

Perrino testified at the trial that the "design was ready for mass production" and that it was perfected, in that it was "workable, usable and marketable" (Tr 1353, 1690-91).

Two days after the December contract was signed, Romel, Singer's chief engineer on the Perma project, wrote to Perma requesting technical information and test data (PX 65A). Perma responded by letter on January 18, 1965 (DX 400). With that letter, Singer received for the first time a series of 1964 field accident reports. These reports contained alarming disclosures of loss of brakes resulting from malfunctioning of the device (*see, e.g.*, DX 25, 36, 44). One of the reports, addressed to Perrino, said:

"Seriously, let's put our heads together and put a *priority* on a *fail-safe feature* or future such accidents may prove to be fatal." (DX 44) (*italics in original*)

It is undisputed that the Perma device was not absolutely fail-safe (Tr 2515, 2556). Its so-called "fail-safe feature" protected against some modes of failure but not against all.

In March, 1965, Singer received from E. I. DuPont de Nemours & Co. an evaluation of the device which DuPont had made on April 9, 1964 (DX 13 for id). The evaluation is not in evidence but it was referred to in Judge Duffy's opinion (Op 23). It appears from the testimony of Romel that the evaluation described seven possible failures of components of the device that could result in loss of brakes (Tr 4615-23). Upon receipt of this evaluation, Romel "for the first time * * * did an analysis of how the device could fail" (Tr 4616-17).

Faced with these somber reports, Singer ceased production of the device but nevertheless continued its efforts to resolve the technical problems (Tr 3192-93; DX 577).

In late June a demonstration of the Perma device was attended by Alfred di Scipio, the new head of Singer's Consumer Products Division of which the Perma project was a part. The demonstration was described by Judge Duffy as follows:

"A car was driven down the highway and subjected to a 'panic' stop, first with the Perma device inactivated and then allegedly twice with the anti-skid control in operation. On all three runs the car swerved and skidded dangerously out of control." (Op 26)

The results of that demonstration caused di Scipio immediate concern about the fail safety of the device. He told his associates that he "did not believe it was appropriate for Singer to market a safety device unless the failure of that device as a minimum left the consumer no less safe than had he not had the device installed in the first place" (Tr 3610-11). He appointed a high level task force to study the Perma project and make recommendations with respect to it (Tr 3616; DX 487).

On August 10, 1965, the task force rendered its first report (PX 88A). The report recommended, pending further evaluation of the future of the Perma project, that Singer should at an estimated cost of \$225,000 terminate its existing distributorships and retrieve from the field all the units previously sold including those installed on vehicles. This program was carried out (Tr 3197; PX 92).

The task force made a second report on November 9, 1965 recommending that Singer seek to sell its rights in the Perma device and its existing inventory (PX 99). This recommendation was accepted by di Scipio (PX 100), but efforts to sell the device were unsuccessful.

While Singer was exploring the possibility of divestiture, Singer's engineers continued to work on the testing and development of the device (Tr 3339-41, 5204). Perma submitted proposals in early November, 1965 in an effort to solve the fail safety problem (PX 97, 98). Singer concluded that Perma's suggestions did not make the device fail-safe (Tr 3264; DX 529, 529A).

On December 23, 1965, Singer wrote to Perma stating in substance that if Perma could find a solution to the fail-safe problem, Singer would be glad to meet with Perma (PX 104). Perma never responded to this letter (Tr 3303).

There were negotiations between the parties looking toward a resale to Perma of the device, but no agreement was reached (Tr 3364-69; DX 53, p 12).

Meanwhile others were working on anti-skid devices (Tr 7730). In 1968 Ford Motor Company first offered an anti-skid device as standard equipment on its 1969 Lincoln Continental Mark III (Ct X 6). This device was developed and manufactured by the well-known brake manufacturer Kelsey-Hayes working closely with Ford (Tr 2296-97; PX 121, pp 2-3). The following year General Motors offered a device of its own design as optional equipment on Cadillacs and certain Oldsmobiles (Ct X 6). Chrysler offered a device developed by Bendix as optional equipment on its Chrysler Imperial beginning with the 1971 model year (Ct X 6). These devices incorporated "electronic improvements" over Perma's mechanical sensor (Op 42).

Sales of these devices by the automobile manufacturers have been small, totaling only 275,161 through March 31, 1974 (Ct X 6; see Tr 7438-40 where an error in Ct X 6 is corrected). Most were sold as standard equipment. Only 63,389 were purchased as optional equipment by new car buyers (Ct X 6). The record shows no sales whatsoever in the aftermarket.

The lawsuit. This lawsuit was begun on March 9, 1966.

The complaint contained two causes of action neither of

which is presently before the Court, but both of which are important for the light which they shed on the contractual intent of the parties. The first cause of action alleged a breach by Singer of its duty under the June contract "to provide diligent quality control in the production, assembly, testing and packaging of the product" (R 1, p 1). The second cause of action sought to rescind the December contract as illusory and fraudulently procured (R 1, p 2).

Singer moved for summary judgment dismissing each of these causes of action. This motion was granted by Judge Bryan on March 29, 1968 (R 18, 28). Judge Bryan did not dismiss the complaint, however. Instead, he directed attention to a sentence in the "Wherefore" clause reading "[a]nd in the alternative, if it be determined that the contract of December 21, 1964 be valid, Plaintiff demands judgment upon this contract for breach and non-performance thereunder in the amount of 41 million dollars." (R 1, p 2) Judge Bryan held that this sentence was "barely sufficient to withstand a motion to dismiss and must be held to state a viable claim for relief for breach of contract." (R 18, p 15) Acknowledging that neither Perma nor Singer had "addressed itself directly to the claim for breach," Judge Bryan said that Singer had failed to demonstrate the absence of material triable issues of fact as to this claim (R 18, pp 14-15).

On appeal by Perma from the dismissal of the first and second causes of action, this Court affirmed Judge Bryan's decision. 410 F.2d 572 (1969).

Singer thereupon made a second motion for summary judgment, contending that since the Perma device was not fail-safe, Singer's decision not to manufacture or market it was fully justified. Perma asserted that the device was fail-safe and that defects in its operation were caused by Singer's faulty manufacturing methods and controls. This motion was heard by Judge MacMahon who held with Singer in two important respects. He adopted Singer's

view of the proper definition of fail safety. He also held that the device was *not* fail-safe and *not* marketable (R 61; 308 F. Supp. at 747-48).

Nevertheless Judge MacMahon denied the motion. His decision turned, as did Judge Bryan's, on an issue which neither of the parties had addressed (R 61; 308 F. Supp. at 750). Judge MacMahon held, notwithstanding Perma's continued assertions that the device was already fail-safe and marketable, that Singer was under an implied contractual duty to use its best efforts for a reasonable time "in collaboration with Perma" to make the device fail-safe and marketable (R 61; 308 F. Supp. at 749). Singer contends that Judge MacMahon's decision was erroneous as a matter of law.

Prior to trial, neither party had proffered any evidence as to the size of the program which would be needed to attempt to make the Perma device fail-safe and otherwise perfected. This is hardly surprising since (1) Perma's position was that the device was already fail-safe, perfected and marketable if manufactured with adequate quality controls, and (2) Singer's position was that the device was not fail-safe and Singer was thus justified in abandoning it. Judge MacMahon, therefore, could have had no notion of the dimensions of the effort he was requiring, and consequently, he could not interpret the intentions of the parties in relation to a defined obligation.

At trial, however, the "obligation to perfect" became concrete. Singer's evidence demonstrated that to make the device fail-safe as it used the phrase (that is, absolute fail safety) was "practically impossible" (Tr 7035). And Judge Duffy agreed (Op 36-37).

Perma contended that its less stringent standard of fail safety could be met through a 15 month program of redesign and redevelopment. It proffered as an expert, Goor, who had been employed "on a temporary interim

basis" by Kelsey-Hayes in the development of its anti-skid device (Tr 2359, 2300). Goor testified (1) that the Perma device was capable of perfection and (2) that this could be accomplished through a 15 month development program of his making (Tr 2511-45). Integral to both of Goor's opinions was a computer simulation of the Perma device performed by DeVilliers, another Perma expert previously employed by Kelsey-Hayes* (Op 41-42; Tr 2899).

Goor's development program was contingent upon Singer's performing a computer simulation similar to the one produced by DeVilliers that would purportedly show that the device was both functional and commercially feasible (Tr 2524). Once this critical threshold had been passed, the development program required the redesign of the device in an unknown and unspecified configuration. Goor testified that additional computer work, not in the record, was necessary to redesign the Perma device to meet an unknown standard of fail safety (Tr 2530-31).

Goor further testified that the development program to redesign the Perma device would cost approximately \$750,000 and require the employment of an additional staff of 20 highly qualified engineers and technicians (Tr 2544).** Thus, this evidence describes the minimum extent

* Singer objected at trial and contends on this appeal that Goor's testimony was inadmissible. The computer simulations upon which this testimony was based were performed by a computer "program" which Perma refused to divulge to Singer. (See discussion at Point Two, *infra*.)

** Goor stated that it would be necessary for Singer to hire the following extra personnel to accomplish his development program:

- 1 project engineer (advanced degree, 10 years experience) (Tr 2520)
- 1 systems engineer (2 degrees, automotive experience) (Tr. 2520-21)
- 2 mechanical engineers (automotive experience) (Tr 2521, 2533)
- 3 computer programmer-technicians (Tr 2521, 2534)
- 7 draftsmen (Tr 2527-28, 2534, 2539)
- 2 mechanics (with specialties) (Tr 2527-28)

of the undertaking Judge Duffy held was impliedly undertaken by Singer. As we will show in Point One, *infra*, the contemporaneous words and conduct of the parties are totally inconsistent with any such intention.

ARGUMENT

POINT ONE

The Court Below Erred in Holding that Singer Had an Implied Contractual Obligation to Use Its Best Efforts to Perfect the Perma Device

The December contract between Perma and Singer did not by its terms impose on Singer any obligation to use its best efforts to make the device fail-safe and otherwise to perfect it. Nor is there any basis in law for imposing such an obligation, absent a clear intention of the parties that it be implied. The words and conduct of the parties, including binding admissions of Perma, establish that neither party intended that Singer undertake this obligation. Thus, the Court below erred in holding that there was such an implied obligation (Op 38-40).

A. Summary Judgment in Singer's Favor Should Have Been Granted

On Singer's first motion for summary judgment, Judge Bryan dismissed the complaint except for a portion of the "Wherefore" clause which demanded judgment "in the alternative . . . for breach and non-performance" under the December contract. Judge Bryan held that the "Wherefore" clause was "barely sufficient to withstand a motion

2 test drivers (Tr 2527)

1 buyer-expediter (Tr 2539)

1 machinist (specializing in prototyping) (Tr 2528)

It bears mentioning that Goor and DeVilliers do not have the education or experience required for the position of "project engineer" or "systems engineer" in the development program.

to dismiss" (R 18, pp 14-15).^{*} In rejecting Perma's contention that the December contract was illusory, Judge Bryan accepted Singer's view that the contract imposed an obligation to use best efforts to "manufacture and market the product" (R 18, p 8).

Singer then made a second motion for summary judgment before Judge MacMahon. Singer contended that the Perma device was not fail-safe and that Singer's decision not to manufacture or market it was fully justified. Perma took direct issue with Singer on whether the device was fail-safe and marketable. Perma contended that Singer should have commenced immediate manufacture and sale because the device was already fail-safe, its design had been perfected, and it was ready for mass production and marketing.

In his affidavit submitted to Judge MacMahon, Perrino said that the issue of whether the device was fail-safe was "the core of the dispute", and added, "I of course firmly believe that it was." (DX 53, pp 9-10)

In its statement submitted pursuant to General Rule 9(g) of the District Court for the Southern District of New York, Perma nowhere suggested that there was any triable issue over whether Singer had an obligation to use its best efforts to make the device fail-safe and to perfect it. On the contrary, Perma's 9(g) Statement asserted the following:

"(8) During the contract performance period, there were no design defects in the product. Moreover, Singer's tests in the spring and summer of 1965 confirmed the product's marketability. Contrary to the assertions of paragraph 5 of defendant's 9(g) statement, the results indicated that the product was effective in that the stopping distances for cars

^{*} Judge Bryan's partial denial of Singer's motion was an interlocutory order and not appealable. It was not, therefore, before this Court when the dismissal of the balance of the complaint was affirmed. 410 F.2d 572 (1969).

equipped with the device were consistently shorter than or equal to those achieved on a car not equipped with the anti-skid device. The tests did not, and could not, indicate that the product was not fail-safe or was inherently defective or in any other way not suitable for commercial use.

"(9) Contrary to paragraphs 5, 6 and 7 of Defendant's 9(g) statement, the product was, in fact, fail-safe." (R 51, p 4)

In addition, Perma filed a Memorandum in Response to Defendant's Reply Memorandum (R 56). That memorandum said in part:

"Since at the time of the December contract Perma had contracts with distributors expressly adopted by Singer calling for the delivery of thousands of units (see Defendant's Reply Memorandum, pages 14 and 15), the parties obviously contemplated immediate manufacture and delivery of at least the amount necessary to satisfy the outstanding orders. Singer was expected properly to manufacture and ship such units without regard to any prior defective units (see Perrino Affidavit, page 4, par. 6)". (pp 6-7)

"The technical service contract referred to in Defendant's Memorandum at page 13, was entered into so that the technical expertise of Perma would be available to Singer for improving its manufacturing methods. To improve the manufacturing methods over the course of only six months' time is not inconsistent with manufacture—and, indeed, presupposes that manufacture is ongoing.

"As plaintiff has said repeatedly, the product at all times was ready for mass production and was marketable; the only perfection required was in Singer's manufacturing." (pp 7-8)

"Singer breached the contract by failing to manufacture the product"

"Singer argues that it performed the contract in that it attempted to perfect the device and produce

a marketable product.' Since the device was already perfected and marketable, Singer's conduct did not constitute performance. Singer's obligation after December 1964 was to begin large scale mass production of the unit as soon as possible. The only perfection required was the elimination of the defects in Singer's manufacturing techniques which were delaying the start of mass production. Thus, it is Singer's failure to manufacture that is the heart of this litigation." (pp 13-14)

Surely the foregoing statements constituted binding admissions of Perma that Singer had no obligation to redesign and perfect the device.

On the issue which Perma had described as the "core of the dispute"—that is, whether the device was fail-safe—Judge MacMahon ruled in Singer's favor. He held that the device was *not fail-safe* and *not marketable* (R 61; 308 F. Supp. at 747-48). Instead of granting Singer's motion and dismissing the case, however, Judge MacMahon added a new claim to the case, the existence of which had been repeatedly denied by Perma in the very papers which it had submitted on the motion. That claim was that Singer had failed to use its best efforts to make the device fail-safe and to perfect it.

Judge MacMahon's ruling was erroneous on two counts: (1) It was not for him to require Singer to answer to a claim never made and consistently denied by plaintiff, and (2) the imposition of an *implied* obligation to perfect the device is justified only if the parties intended it (*see* pp 19-21, *infra*). It was undeniable on the papers before Judge MacMahon that neither party intended that Singer had any such implied obligation.

Thus, Judge MacMahon's decision denying Singer's motion for summary judgment should be reversed. The motion should be granted and the complaint dismissed.*

* Judge MacMahon's decision denying the motion for summary judgment was, of course, interlocutory and not then appealable. A decision denying a summary judgment motion is, however, appealable after a final judgment on the merits. *Savarin Corp. v. National Bank of Pakistan*, 447 F.2d 727 (2d Cir. 1971).

**B. It Was Error to Hold After Trial that Singer
Had an Implied Obligation to Perfect the Device**

The extent to which Judge Duffy simply followed the erroneous ruling of Judge MacMahon is not clear. His opinion states "While I defined the issues at the start of trial in a somewhat similar manner to that of Judge MacMahon, I permitted extraordinary latitude to the defense to prove all that it could and to make any arguments it wished as to its defenses and its counterclaim." (Op 4) In fact, however, Judge Duffy cut off Singer's attempts to examine a number of witnesses with respect to the intention of the parties on this issue.

Judge Duffy's discussion of the central issue of Singer's contractual obligation was brief (Op 38-39). With only the scantiest reference to the relevant conduct of the parties, he held that "clearly implied in the contract is the intention that Singer would use its best efforts to perfect and market the device." (Op 38) He cited three authorities cryptically, discussing none of them: *Wood v. Lucy, Lady Duff-Gordon*, 222 N.Y. 88, 118 N.E. 214 (1917), *Eastern Electric, Inc. v. Seeburg Corp.*, 427 F.2d 23, 26-27 (2d Cir. 1970), and 3 A. CORBIN, CONTRACTS § 562 (1960) (Op 39).

Judge Duffy failed to realize, however, that the authorities he cited do not call for the imposition as a matter of law of an obligation to use best efforts to perform a function not expressed in a written contract. These authorities mandate instead that such an obligation may be implied only when such is the intention of the parties. And the intention is to be spelled out from the contract itself and from the words and conduct of the parties.

In *Lady Duff-Gordon*, the fount of judicially implied obligations, the Court analyzed the express terms of the contract which had "a value * * * in determining the intention of the parties." 222 N.Y. at 92, 118 N.E. at 215.

In *Eastern Electric, Inc. v. Seeburg Corp.*, this Court *rejected* the plaintiff's contention of an implied obligation

to exploit assigned patents, relying both on the words of the contract and the conduct of parties, including the refusal of the defendant to accept a clause making such an obligation explicit. 427 F.2d at 26-27.

The section from *Corbin* cited by Judge Duffy states:

"When a court finds and enforces such a promise as this, it finds it by interpretation of the promisor's words and conduct in the light of the surrounding circumstances." 3 A. CORBIN, CONTRACTS §562, at 287.

The arbitrary imposition of a best efforts obligation was specifically rejected in *Reback v. Story Productions, Inc.*, 9 App. Div. 2d 880, 193 N.Y.S.2d 520 (1st Dep't 1959). In that case, plaintiffs had sold to defendant "in perpetuity" the "exclusive right" to motion picture, radio and television rights to the plaintiffs' literary property. *Reback v. Story Productions, Inc.*, 15 Misc. 2d 681, 682, 181 N.Y.S.2d 980, 982 (Sup. Ct. N.Y. Co. 1958). The defendant was to pay a percentage of the proceeds, with a minimum guaranty of \$100,000. 15 Misc. 2d at 683, 181 N.Y.S.2d at 982. The lower court held, relying on *Wood v. Lucy, Lady Duff-Gordon*, that the agreement was "instinct with an obligation" that defendant at least use its best efforts to produce a motion picture and to cause the televising and broadcasting of plaintiffs' literary property. 15 Misc. 2d at 683-85, 181 N.Y.S.2d at 982-83.

The Appellate Division specifically disapproved the lower court's summary imposition of the implied best efforts obligation:

"In disposing of the application, Special Term ruled that the 1945 agreement imposed an implied obligation on appellant 'either to exploit the rights transferred to it or else, at least, to use its best efforts to do so.' Since Special Term found the agreement ambiguous, and that parol evidence could be offered at the trial to resolve the ambiguity, it was premature to eliminate defendant's claim that it was not

obligated to do anything but pay plaintiffs the \$100,000 for the rights conveyed. Whether there was any implied obligation, and its scope, are to be determined at the trial, and only after the defendant's contention as to the essence of the agreement has been rejected." 9 App. Div. 2d at 881, 193 N.Y.S.2d at 521-22.

The Undisputed Facts Show that Neither Party Intended that Singer Should Assume the Obligation to Redesign and Perfect the Perma Device

Singer has not challenged the proposition that the parties intended that Singer was to use its best efforts to manufacture and market the Perma device. Judge Bryan so held (R 18, p 8), and this Court affirmed. 410 F.2d at 572 (1969). But this was an obligation to use best efforts to manufacture and market the Perma device as it then existed, with such changes in manufacturing specifications as might be called for (Tr 1352-53).

At trial plaintiff offered proof of the minimum program which would have constituted best efforts to redesign and redevelop the device so as to make it fail-safe and marketable (by the standards of plaintiff and Judge Duffy, which although undefined were lower than those of Singer and Judge MacMahon). This development program required a time period of approximately 15 months, a cost of three-quarters of a million dollars, and the hiring of 20 people including engineers with advanced degrees, computer programmers, draftsmen, mechanics and others (Tr 2511-48; pp 14-15, *supra*).

It can be readily demonstrated that neither party contemplated that Singer should undertake such a development program.

Singer's words and conduct. Look, for example, at Singer's conduct during the time leading up to and following the execution of the December contract:

1. On October 21, 1964, two months before the execution of the December contract, R. A. Kloby, Singer's Project Manager for the anti-skid device, reported as follows:

"Because of quality problems encountered in parts supplied by outside vendors and a design deficiency in a gear box, which was uncovered by our Quality Control testing procedure, only a token shipment of 500 units has been made to date. *These problems appear to be resolved and shipments should resume before the end of October.*" (DX 191, p 2) (italics ours)

2. On December 11, 1964, L. E. Hough, Singer's Vice President of Manufacturing, wrote to D. P. Kircher, Singer's Chief Executive Officer, recommending that Singer enter into the proposed contract with Perma. Hough predicted sales in 1965 of 50,000 units (PX 59, p 7). He recommended that Monitor be appointed exclusive distributor "in view of the time element and need to get the product moving and money coming in" (PX 59, p 5). Hough's estimates of income and expenses on the Perma device for the years 1965, 1966 and 1967 made no provision for any engineering program remotely similar to that described by Goor (PX 59, p 7).

3. In early December, 1964 Romel, Singer's chief project engineer, reported to Hough and others that "all of the known problems that had occurred in the past were either, in my opinion, resolved or would be resolved shortly" (Tr 4500) and that the device "was ready for sale" (Tr 4505-06).

4. On December 21, 1964, the day the agreement was executed, R. S. Torello of Singer's financial department wrote to D. D. Marsden, Singer's Comptroller, about a proposed contract with Monitor Enterprises, Inc. under which Monitor would market the device for Singer. Torello said:

"Monitor has guaranteed to take 50,000 units during the first twelve month period and has agreed to spend

\$250,000 for advertising and promotion during this period." (PX 120, p 2)

5. While operating under the June contract, Singer had made a commitment to purchase a \$1,421,319 inventory of parts from Perma's suppliers which had been manufactured to meet the then current specifications for the device (PX 120, p 1). Recovering this investment through the marketing of the devices was a prime inducement to Singer to enter into the December contract with Perma. This is plain from Torello's memorandum of December 21, 1964 which discusses the merits of acquiring Perma's rights and assumes that the existing inventory would be used in the units to be sold (PX 120). Obviously, no redesign was contemplated which would render the inventory obsolete.

6. A few days after the December contract had been executed, Singer resumed production (Tr 4517).

7. On January 7, 1965, shortly after the execution of the December contract, P. Phelps, a Singer executive, wrote to S. J. Murphy, an Assistant Vice President of Singer, listing "certain points of emphasis which we have discussed from time to time during the negotiations with Perma." One of these "points" is the following:

"We have in this program an investment and commitments amounting to something in excess of one million dollars and in view of this it is of utmost important [sic] that we spend no additional monies and generate from cash flow as quickly as possible with the prime objective to cut down this investment as rapidly as possible." (PX 62, p 1)

8. On January 18, 1965, Singer entered into an exclusive distributorship agreement with Monitor Enterprises, Inc. which was one of Perma's distributors. Singer agreed to sell to Monitor a minimum of 50,000 units during 1965 commencing with 140 units to be delivered during the week of January 30, 1965 (PX 64, pp 5-6, 14). Monitor agreed

to incur annual promotional and advertising expenses of a minimum of \$250,000 (PX 64, pp 2-3).

Perma's words and conduct. Look also at Perma's conduct, not only at the time of agreement but up to and during the trial:

1. In late 1963 or early 1964 Perma had placed an order with its then manufacturer for 50,000 units and was actually marketing the device (Op 7-8; Tr 289, 1394-95). Perma did not come to Singer for assistance in redesign, but instead for improved quality control in the manufacturing process (Tr 290; DX 53, pp 4-5).

2. The Perma promotional film contained the statement:

"The Perma anti-skid control carries a full year warranty and includes a fail-safe feature which will automatically revert to the standard braking system in case of failure." (Tr 870-71; DX 1, p 8)

Perrino testified at the trial that the statement "was true" and that "when the product is made properly it reverts to the standard braking system." (Tr 871)

3. On November 30, 1964, three weeks before the contract was executed, S. Karp, Perma's Vice President for Marketing, wrote R. Patten of Singer about an estimated budget for advertising. Karp said, "The advertising program must be put into effect at once so that distributor inquiries may be generated immediately." (DX 195, p 1)

4. On December 11, 1964, Karp wrote again, this time to a Perma distributor, stating:

"No need now to hold back. The new product is in high production and the quality and performance is great. I would recommend you put your efforts in high gear * * *" (DX 197).

5. On February 2, 1965, Perma wrote its stockholders describing the Singer contract in glowing terms. The report on the Singer contract concludes:

"The foregoing factors give us confidence that substantial cash royalties will be generated *in the near future* from the Singer arrangement." (DX 409, p 3) (italics ours)

6. In its complaint filed on March 9, 1966, Perma did not allege that Singer had any obligation under the December contract to make the device fail-safe and otherwise to perfect it. The theory of the complaint was to the contrary. The First Count alleged a breach of Singer's duty under the June contract "to provide diligent quality control in the production, assembly, testing and packaging of the product" (R 1, p 1). The Second Count sought to rescind the December contract as illusory and fraudulently procured. Only in the final sentence of the "Wherefore" clause was there a reference "in the alternative" to a breach of the December contract (R 1, p 2).

7. On November 18, 1969, Perrino executed an affidavit in opposition to Singer's second motion for summary judgment. The affidavit nowhere suggests that Perma intended in December, 1964 that Singer suspend manufacturing and institute anything remotely resembling a 15 month development program to make the device fail-safe and marketable. In Perrino's view, the device was already fail-safe and marketable and required only proper manufacturing. The following passages from the affidavit are illustrative:

"[The reversion clause] does not even mention the year 1965, during which Perma certainly expected Singer to be manufacturing and shipping units and during which Singer was additionally obligated to do so by virtue of its having assumed Perma's obligations under five distributor contracts * * * These contracts alone called for the delivery by Singer of in excess of 50,000 units during 1965." (DX 53, pp 8-9)

* * *

"Whether the device was 'fail-safe' when Singer decided not to market it is the core of the present dispute between Perma and Singer. I of course firmly believe that it was." (DX 53, pp 9-10)

8. In January, 1970, Perma also filed, in connection with the same motion, the 9(g) Statement and Memorandum quoted at pages 16-18, *supra*. These contained binding admissions that "Singer's obligation after December 1964 was to begin large scale mass production of the unit as soon as possible." (R 56, p 14; R 51, p 4)

9. In its Supplemental Memorandum in Response to Defendant's Pre-Trial Memorandum, Perma said:

"Plaintiff * * * contended in 1965 and before Judge MacMahon [in 1970] that defendant had a duty to market the product with the fail safe features it then incorporated, *as such marketing was contemplated by the parties when the contract was executed.*" (R 171, p 7) (italics ours)

* * *

"Plaintiff still believes that, the product should have been marketed as it was then developed." (R 171, p 8)

10. During the trial below, Perrino's testimony made clear that in December, 1964 he did not have in mind any 15 month development program, but instead believed that the device was "workable, usable and marketable" (Tr 1353, 1690-91). For example:

"Q. Are you saying therefore that the design was ready for mass production?

"A. Yes." (Tr 1353)

Facts relied upon by Judge Duffy. Without discussing any of the words or conduct in the foregoing catalogue, Judge Duffy relied on only two facts.

First, he pointed out that "imperfections" had been discovered during the work under the June contract and concluded from this that "Singer offered its purported

engineering expertise to perfect the device" (Op 39). But the undisputed facts stand in the way of this conclusion. The minimum program "to perfect the device", as Perma now contends, would have involved the suspension of manufacturing and an expensive 15 month redesign and redevelopment effort. The "imperfections" discovered during the June period related to manufacturing specifications (DX 53, pp 6-7); they were thought to have been resolved, and Singer resumed production and committed itself to prompt delivery of units to its distributor (Tr 4517; DX 191, p 2; PX 64).

Second, Judge Duffy referred to the Technical Services Contract under which Perma agreed to render technical assistance to Singer (DX 656, p 3-5). He inferred from this that Singer "knew that the device was still to be perfected" (Op 39). But this inference is simply not justified. The six month term of the Technical Services Contract and Perma's personnel resources did not begin to match the lengthy program and large, qualified staff which Goor called for (Tr 22, 2520-59). As its terms imply, and as Perma had admitted "[t]he technical service contract . . . was entered into so that the technical expertise of Perma would be available to Singer for improving its manufacturing methods. To improve the manufacturing methods over the course of only six months . . . presupposes that manufacture is ongoing." (R 56, pp 7-8; DX 656, pp 3-5; DX 191, pp 4, 10).

None of the facts discussed by Judge Duffy evidence an intention of the parties that Singer was to be obligated to use its best efforts to make the Perma device fail-safe and otherwise marketable. They are all consistent with the intention plainly spelled out by the words and conduct of the parties which we have set out above—that is, that Singer was to use its best efforts to manufacture and market the device as it was. Since it is now conceded that the device was not fail-safe and not marketable (Tr 2515, 2556),

judgment should have been granted in Singer's favor dismissing the complaint.

C. The Court Below Committed Error in Excluding Evidence Relevant to the Intention of the Parties

Despite his statement that "I permitted extraordinary latitude to the defense" (Op 4), Judge Duffy repeatedly and systematically refused to allow evidence relevant to the parties' intention at the time of entry into the December contract.

Singer was not permitted to ask Perrino whether at the time of entry into the December contract he believed "that Singer had an obligation to attempt to perfect the device" (Tr 1339) or "that Singer's need to perfect was limited to the elimination of defects in Singer's manufacturing techniques" (Tr 1342-43).

Judge Duffy's rulings were based on his Supplemental Pre-Trial Order which assumed that Singer had the obligation to use best efforts to perfect the device so as to make it marketable (R 102). When Singer's counsel objected to the limitations on its right to cross-examine (R 119; Tr 1363-74), Judge Duffy stated:

"If you would like to argue that my signing that pretrial order is improper, improvident or whatever, you can argue it, but I am afraid that you will have to go to our friends up on the 17th floor to get that decision.

* * *

"... I signed a pretrial order which delineates the issues. If you disagree with those issues, then you have your relief but your relief will come at the end of the case. We are going to try the issues that were set forth in that pretrial order" (Tr 1367-68).

During the examination of Singer witnesses, Judge Duffy continued to sustain objections to questions relevant to the intention of the parties. Such rulings were particularly

prejudicial with respect to questions directed to Hough, the Singer Vice President who actually signed the December contract. For example, although Perrino had told Hough prior to entry into the December contract that the device was fail-safe (Tr 6906), Hough was not permitted to answer questions such as "On December 21, 1964 did you believe that the Perma device was fail-safe?" (Tr 6903) or "At the time of entry into the December contract did you contemplate that Singer would enter into a program to perfect the device so as to make it fail-safe?" (Tr 6904) Similar rulings can be found at: Tr 4132-33 (Romel), 4135 (Romel), 5884 (Murphy), 6904-05 (Hough).

We submit that the Court's exclusion of evidence relevant to the intention of the parties at the time of entry into the December contract constituted reversible error. *Sowalsky v. E.F. MacDonald Stamp Co.*, 31 App. Div. 2d 582, 294 N.Y.S.2d 1016, 1017-18 (3d Dep't 1968); *Epstein v. Cuba*, 25 App. Div. 2d 680, 680-81, 268 N.Y.S.2d 947, 949 (2d Dep't 1966).*

D. The Device Could Not Be Made Truly Fail-Safe and Singer Was Justified in Abandoning It

Judge MacMahon stated that one of the issues for trial was

"(2) In view of the fact that the device was not 'fail-safe', was Singer justified in abandoning the contract . . . because it was impossible to make the device 'fail-safe' . . . ?" (R 61; 308 F. Supp. at 749).

It is now clear that it was impossible to make the device absolutely fail-safe, the standard urged by Singer and adopted by Judge MacMahon, but rejected by Judge Duffy (Op 36-38; R 61; 308 F. Supp. at 747-48).

* Such evidentiary rulings were also improper with respect to Singer's affirmative defense and counterclaim based on fraudulent misrepresentation, for the questions clearly relate to the reliance element of fraud. *Hanlon v. Macfadden Publications, Inc.*, 302 N.Y. 502, 99 N.E.2d 546 (1951); *Carrington v. Miller*, 124 Misc. 169, 207 N.Y.S. 154 (App. T. 1st Dep't 1924).

Perma's counsel acknowledged that this degree of fail safety was "unattainable" (Tr 14-15). Judge Duffy agreed (Op 36-37).

Judge Duffy held, however, that some lesser degree of fail safety was the proper standard, because the automobile anti-skid systems which were being marketed in the United States were not truly fail-safe in the sense adopted by Singer (Op 36-37).

But the other anti-skid systems being marketed were by design and installation inherently more reliable than Perma's. They consisted of the Chrysler device manufactured by Bendix, the Ford device manufactured by Kelsey-Hayes, and the General Motors device manufactured by General Motors (Ct X 6). These were designed for installation on a specific make of car. The Perma device, on the other hand, was designed for use by a broad variety of makes and models. It was sold with a "variable kit" because "the brake lines, the hoses * * * would take a different length" and an "adapter gear" (Tr 337).

In addition, the OEM devices were incorporated in the original equipment in the factory, and the installation was subject to all of the quality control and inspection which manufacturers employ. Conditions were quite different in the aftermarket at which the Perma device was aimed. Here, installation would be by mechanics of questionable experience and training in auto supply stores, auto dealers, or even the corner garage, without the resources for inspection and testing available at the factory.

Plaintiff's expert, Goor, whose standard of fail safety was that used by Kelsey-Hayes in the development of a device to be installed at the Ford plant by Ford-trained mechanics (Tr 2449-51), conceded, "I really don't think I can answer" whether the Perma system could "be safely and properly integrated into the different braking systems of a broad variety of vehicle makes and models under the range of environmental and brake system conditions rea-

sonably to be expected." (Tr 2567-68) He could not express an opinion as to whether "installation of the device on vehicles by persons other than the original manufacturers of the vehicles resulted in unreasonable hazards to the users of the vehicle." (Tr 2572; see DX 11, 20)

Judge MacMahon agreed with Singer that fail safety should be absolute, so that no failure of the device would cause a loss of brakes (R 61; 308 F. Supp. at 748, n. 12).

This definition has been written into the New York statutes with respect to brake systems. N.Y. VEHICLE AND TRAFFIC LAW § 382-b (McKinney 1970). The purpose of this law, which was enacted in 1966, was described by Governor Rockefeller as follows:

"This bill will require that all 1968 or later models be equipped with a 'fail-safe' brake system designed to provide adequate braking force even though a single component of the system might fail." Message of the Governor on Approving L. 1966, c. 210 (April 25, 1966), in 1966 SESSION LAWS OF N.Y. 2987 (McKinney 1966).

The importance of absolute fail safety to the successful marketing of an add-on, aftermarket device such as Perma's was recognized by Perma itself in its advertising materials. Its promotional film used the true definition of fail safety in representing that

"The Perma anti-skid control * * * includes a fail-safe feature which will automatically revert to the standard braking system in case of failure." (DX 1, p 8)

Thus, we submit that when the full realization came to Singer's top management that the Perma device was not fail-safe in the true sense and could not be made so, it was reasonable and proper for Singer's management to decide it did not wish to market such a product.

The conclusion suggested by Judge MacMahon is inescapable and Singer was "justified in abandoning the contract * * * because it was impossible to make the device 'fail-safe'".

POINT TWO

The Finding of the Court Below that the Perma Device Was Perfectible Is Based Upon Computer Simulations Erroneously Admitted in Evidence

Even if Singer did have an obligation to perfect the device, the judgment of liability and the award of damages require a finding that the Perma device could be perfected to the point where it was commercially marketable. *Peck v. Shell Oil Co.*, 142 F.2d 141 (9th Cir. 1944); *Kraus v. General Motors Corp.*, 120 F.2d 109 (2d Cir. 1941). Judge Duffy found that the Perma device was perfectible on the basis of computer simulations produced by Perma's expert witnesses (Op 41-42).*

The computer simulations were erroneously admitted in evidence without disclosure of the computer program; without evidentiary foundation; without pre-trial notice; and in spite of the fact that the results of Perma's computer simulations are both hearsay and so obviously unreliable that they are incapable of providing the basis for opinion testimony.

Singer first learned of the computer simulations on January 4, 1974 after two full months of trial when Goor, plaintiff's expert on anti-skid devices, stated that his evaluation of the Perma anti-skid device would be based upon computer simulations made by his colleague DeVilliers (Tr 2455-58). Over Singer's objections, Judge Duffy admitted "stopping distance summaries" of the computer printouts in evidence (PX 123, 124, 125) and allowed Goor to testify about the Perma anti-skid device subject to the later admission in evidence of the computer simulations themselves during the testimony of DeVilliers (Tr 2460-64, 2503-04).

* "Computer simulation is the construction and manipulation of a model of a real world reference system by utilizing theoretical simplifications and assumptions." Note, *Computer Simulation and Gaming. An Interdisciplinary Survey with a View Toward Legal Applications*, 24 STAN. L. REV. 712 (1972).

In permitting Goor to testify about the Perma device on this basis, Judge Duffy cautioned Perma's counsel that "[i]f you don't make the connection the whole opinion gets thrown out." (Tr 2463)

Despite Singer's request on January 5, 1974 that the printouts and inputs be immediately disclosed (Tr 2508-09, *reiterated at* 2944, 2965, 2969-70, 2972, 2982, 3086-89, 3880-90), these materials, with the exception of one printout disclosed on February 23, 1974 (PX 127), were not made available for three months, until exhibits purporting to represent the printouts (PX 128, 129) and some of the underlying data and formulas used in the simulations (PX 132, 133, 133A, 134, 135) were offered in evidence on April 4, 1974* (Tr 3015-16).

The computer program, however, was not included in the materials furnished (Tr 3086). Singer immediately moved that the program be produced (Tr 3086-89). Disclosure of the program was refused on the provocative ground that it was "proprietary, belonging both to Mr. DeVilliers and Goor Associates, and it represents a substantial amount of their private work product." (Tr 3088)

After the cross-examination of DeVilliers had proceeded as far as it could without the program and other foundation materials, Singer moved to strike the computer simulations and all testimony and evidence relating thereto (R 185; Tr 3880-83). Despite requests for a prompt decision so that Singer would know whether it had to prepare computer simulations of its own (Tr 4087, 4174-81, 4605, 4684), Judge Duffy did not rule until May 31, 1974 at which time the motion to strike was denied (Tr 5867). Judge Duffy gave no grounds for the denial and simultaneously denied Singer's request for a continuance to prepare and offer computer simulations of its own (Tr 5868-69).

* PX 143, which represents the absolutely critical formulas used to represent tire-road friction data, was not offered until May 2 at the conclusion of DeVilliers' redirect examination (Tr 3926-26a).

A. Plaintiff's Refusal to Disclose the Program and Other Foundation Materials Should Have Precluded Admission of the Computer Simulations

The admission in evidence of computer-generated information is fraught with danger.

"Although the computer has tremendous potential for improving our system of justice by generating more meaningful evidence than was previously available, it presents a real danger of being the vehicle of introducing erroneous, misleading, or unreliable evidence. The possibility of an undetected error in computer-generated evidence is a function of many factors: the underlying data may be hearsay; errors may be introduced in any one of several stages of processing; the computer might be erroneously programmed, programmed to permit an error to go undetected, or programmed to introduce error into the data; and the computer may inaccurately display the data or display it in a biased manner." Roberts, *A Practitioner's Primer on Computer-Generated Evidence*, 41 U. CHI. L. REV. 254, 255-56 (1974) [hereinafter cited as "*Computer-Generated Evidence*"].

While there are apparently no reported decisions dealing with the admission in evidence of computer simulations specifically, standards announced by the Federal Courts, the Federal Judicial Center, the American Bar Association and commentators require the application to such evidence of essentially the same safeguards that have always been applied to samples, surveys, summaries and mathematical computations. *United States v. De Georgia*, 420 F.2d 889, 895 (9th Cir. 1969) (concurring opinion). Thus, in order to lay the full and complete foundation necessary for admission of computer-generated evidence, "[i]t is essential that the underlying data used in the analyses, programs and programming method and all relevant computer inputs and outputs be made available to the opposing party far in advance of trial [as a condition of admissibility]." Federal

Judicial Center, *Manual for Complex Litigation* § 2.717 (1973) [hereinafter cited as "*Manual for Complex Litigation*"]; *United States v. Dioguardi*, 428 F.2d 1033, 1038 (2d Cir.), *cert. denied*, 400 U.S. 825 (1970); ABA Sub-Committee on Data Processing, *Principles of Introduction of Machine Prepared Studies* (1964), in C.L.S.R. § 5-4.2 [hereinafter cited as "*Machine Prepared Studies*"].

The burden of laying a foundation rests squarely upon the proponent of the computer simulations. *United States v. Russo*, 480 F.2d 1228, 1241 (6th Cir. 1973), *cert. denied*, 414 U.S. 1157 (1974); *United States v. Dioguardi*, 428 F.2d at 1038; *United States v. De Georgia*, 420 F.2d at 895-96 (concurring opinion).

Although the computer program is but one of many elements required for a proper foundation,* it is the *sine qua non* for the admission of computer-generated evidence generally. *United States v. Dioguardi*, 428 F.2d at 1038. The computer program is "[t]he complete plan for the solution of a problem, i.e., the complete sequence of automatic data processing equipment instructions necessary to solve a problem". CAL. ADMIN. CODE tit. 18, § 1502(b).

Computers are "told" what to do by "programs" which "are sets of instructions . . . which can be made understandable to the machine and which direct the hardware in its analysis of data." Note, *Computer Software: Beyond the Limits of Existing Proprietary Protection Policy*, 40 BROOKLYN L. REV. 116, 116-17 (1973). In view of the absolute importance of the computer program, "[i]t is quite incomprehensible that [Perma] should tender a witness to state the results of a computer's operations without having the program available for defense scrutiny and use on

* In its report, The American Bar Association lists 13 foundation requirements for admission of computer-generated evidence including, *inter alia*, notice, the program, logic plan charts, verification, etc. *Machine Prepared Studies*, C.L.S.R. § 5-4.2, at 4-6. Perma failed to meet 12 of the 13 foundation requirements enumerated by the ABA. Discussion of these foundation requirements is omitted, although not waived, in the interest of brevity.

cross-examination if desired." *United States v. Dioguardi*, 428 F.2d at 1038.

In the case of Perma's computer simulations, which are complex and unique representations of a specific device created specially for the purpose of litigation, disclosure of the program was absolutely essential.

Without access to the program, the printouts are meaningless for it could not be ascertained whether all, or indeed any, of the data and formulas identified by Perma as input were in fact used by the computer in creating the output.

"The computer can only operate on the data that the program instructs it to operate on and can only perform the operations that the program directs it to perform. If there is an error in the program, the computer obediently commits that error, possibly many times." *Computer-Generated Evidence*, 41 U. CHI. L. REV. at 259.

Without the program, neither Singer nor the Court could determine if the computer was deliberately programmed to generate error, see *Donaldson v. California*, 404 U.S. 968, 970 n.2 (1971) (dissenting opinion), or deliberately biased to produce results favorable to Perma. *Computer-Generated Evidence*, 41 U. CHI. L. REV. at 255-56. Indeed, DeVilliers' testimony strongly suggests that the computer simulations were custom tailored, and altered, to achieve favorable results established in advance by Perrino:

"I believe it to be valid. This is the best I can say. *It corresponds with what I have gotten in conversation with the developers of the Perma system.*" (Tr 3022) (italics ours)

"The important thing is to make sure that when one simulates something that one is, first and foremost, making a reasonable representation of what he is trying to simulate. Now, if in the process you get data which looks ridiculous, unfavorable, whatever you want to call it . . . then you fix it. I mean, isn't that reasonable?" (Tr 3869)

In light of these and similar admissions (Tr 3799-3800, 3878), Perma's already suspect refusal to divulge the program on the ground that it was "proprietary" to its authors gives rise to an inference that the program was designed to produce results desired by Perma.

Singer Was Denied Effective Cross-Examination

The program contains the logical and analytical assumptions underlying the computer simulations. Singer could not effectively cross-examine DeVilliers about the simulations without knowing what these basic assumptions were. *United States v. Dioguardi*, 428 F.2d at 1038; *Manual For Complex Litigation* §§ 2.717, 3.50.

"There is a crude but graphically true expression among machine men to the effect that 'garbage in equals garbage out.'" *Machine Prepared Studies*, C.L.S.R. § 5-4.2, at 3.

If the program was "garbage", Singer and the Court had the right to know it.

The Computer Simulations Are Hearsay

"Computer-generated evidence will inevitably be hearsay, and to be admissible the evidence must therefore be brought within an exception to the hearsay rule." *Computer-Generated Evidence*, 41 U. CHI. L. REV. at 272; *Ed Guth Realty, Inc. v. Gingold*, 34 N.Y.2d 440, 451-52, 315 N.E.2d 441, 445-46, 358 N.Y.S.2d 367, 373-74 (1974); Op. Ga. Att'y Gen. (June 12, 1973), in 4 C.L.S.R. 1325; *Manual for Complex Litigation* § 3.50; Younger, *Computers and the Law of Evidence* (February 25, 1975), in 173 N.Y.L.J. No. 37, at 1. The computer simulation printouts are statements made by an out-of-court declarant, the computer program, being offered for the truth of the matter being asserted therein. *Computers and the Law of Evidence*, *supra*; see *McGill v. Jenkins* (Civ. Ct. N.Y. Co. June 13, 1975), in 173 N.Y.L.J. No. 114, at 16.

Perma has not, and cannot, argue that the simulations fall within any recognized exception to the hearsay rule.* Nor can Perma argue that the hearsay rule was avoided by full disclosure of the program and other foundation materials far in advance of trial. *Manual for Complex Litigation* § 3.50. Goor's opinions "[o]n the basis of the computer simulations performed by DeVilliers" (Op 42) are inadmissible as double hearsay.**

The Results Cannot Be Verified Without the Missing Program

Since "it usually is not possible to determine whether the computer is properly programmed by examining the answers obtained", *Reeves Instrument Corp. v. Beckman Instruments, Inc.*, 444 F.2d 263, 264 (9th Cir.), *cert. denied*, 404 U.S. 951 (1971), computer simulations are validated by comparing computed performance against measured real world performance of the device being simulated (Tr 2655, 3021, 7918-22). In the absence of such validation, no one can determine whether the computer simulations are accurate*** (Tr 2655, 7919-20).

Perma's computer simulations are incapable of the validation required for admission of computer printouts. *United States v. De Georgia*, 420 F.2d at 893 n.11. They do not purport to represent the performance of a real device, but rather mathematically anticipate the behavior

* Computer-generated evidence is usually admitted under the business records rule, an exception obviously not available to Perma. *Computer-Generated Evidence*, 41 U. CHI. L. REV. at 272.

** The printouts are hearsay even to DeVilliers who admits that there were intermediate computational processes performed by the program, the results of which he did not know (Tr 3797-98). Goor preferred to rely on telephonic interpretations and never took the trouble to look at the printouts, even after they became available (Tr 2732).

*** Perma provided no specifications for the engineering changes incorporated in the simulated device (Op 41), thereby foreclosing the possibility that Singer could have constructed and tested the device as simulated and provided its own validation. See *Manual for Complex Litigation* § 3.50.

of what Goor and DeVilliers thought the Perma device could have or should have been (Op 41; Tr 3885-86). Inasmuch as Perma never undertook to design, let alone actually test, such a device, the computer simulations are incapable of true validation (Tr 3021-22, 7927-28).

Validation, to the minimal extent Perma's computer simulations are capable of such, must come from the soundness of the analytical and logical thought contained in the program which Perma never provided. Computer-generated evidence which cannot be readily verified by data supplied by the offeror or by data in the objectant's possession is inadmissible. See *United States v. Dioguardi*, 428 F.2d at 1038-39; *D&H Auto Parts, Inc. v. Ford Marketing Corp.*, 57 F.R.D. 548 (E.D.N.Y. 1973).

The Inputs Cannot Be Ascertained or Verified Without the Missing Program

PX 135 was identified as a list of numerical constants used to represent the Perma device in the simulations (Tr 2985). A different set of numbers appearing as the top row of the printouts was subsequently identified as the input values actually entered in the computer during the simulations* (Tr 2997). Only one of the ten numbers on PX 135 appears on the top row of the printouts.

DeVilliers explained that the differences between these two sets of input values were due to the fact that the numbers in PX 135 were recomputed before they were entered into the simulations (Tr 2987-88, 3013-14). The formulas which performed these calculations were never disclosed (Tr 3014).

Without the program which performed these computations, Singer does not know and is not in a position to compute the input data actually entered in the simulations in

* DeVilliers admits, however, that the inputs on the printouts are incomplete and that they represent "some of the input data and some computer data that is relevant" (Tr 2997) (italics ours).

order to be able to verify it. It is almost axiomatic that validity of input must be established as a foundation to the reliability and competence of a computer's output. *United States v. De Georgia*, 420 F.2d at 893 n.11.

The computer program contained "immense amounts of data . . . internal to it" which, obviously, were not disclosed by Perma (Tr 3797). For example, DeVilliers explained that the program incorporated a deceleration "limit" or "stop" to enable the formulas set forth in PX 134 to portray the complex interrelationship between the cam gear and the governor (Tr 3851-54). Without access to the program, Singer could not verify the existence or accuracy of this and other data internal to the computer simulations.

B. The Results of the Computer Simulations Contain Obvious Errors

The computer simulations show the Perma anti-skid device performing in a manner which violates fundamental laws of physics. The most obvious examples of physically impossible behavior are contained in those portions of the printouts which show the Perma device causing the wheels of a vehicle to increase wheelspeed during periods of continuous deceleration and to decrease wheelspeed during periods of continuous acceleration (DX 708, "Yellow" entries, pp 27, 34, 35; Tr 7984-86).^{*} The computer printouts also report automobile wheels increasing and decreasing wheelspeed in an oscillatory fashion during periods of either constant acceleration or constant deceleration (DX 708, "Green" entries, pp 1, 13, 15, 22, 31, 35, 40, 44; Tr 7986-90).

Newton's Second Law of Motion tells us that an object continuously subjected to acceleration must continuously increase its velocity and that an object continuously subjected to deceleration must continuously decrease its velocity. Perma's computer simulations tell us otherwise.

^{*} DX 708 is a marked copy of PX 129, one of the computer printouts (Tr 7976-78). The same behavior is reported in PX 127 and 128.

The cause of these errors, or explanation if such exists, must reside in the missing computer program. Fundamental fairness compels that Singer not be required to pay nearly \$7,000,000 in damages to a party who claims the high hand, but refuses to show his cards in the face of evidence of a stacked deck.

C. There Is No Foundation of Identity or Substantial Similarity of Condition

The computer simulations were inadmissible absent proof that the device as simulated was the same as the Perma device and that the simulated conditions were substantially similar to conditions existing during early 1965, the relevant period of the litigation. *Glick v. White Motor Co.*, 458 F.2d 1287, 1289 (3rd Cir. 1972); *La France v. New York, N.H.&H.R.R. Co.*, 292 F.2d 649, 650 (2d Cir. 1961); *Lobel v. American Airlines, Inc.*, 205 F.2d 927, 931 (2d Cir. 1953); RICHARDSON ON EVIDENCE § 199 (10th ed. 1973). Perma, as proponent of the computer simulations, had the burden of laying a foundation of substantial similarity. MCCORMICK ON EVIDENCE § 202, at 485 n.14 (2d ed. 1972); 29 AM. JUR. 2D *Evidence* § 824 (1967). No such foundation was established, and Perma's counsel admitted that plaintiff had not even intended that the computer simulations be performed under conditions of substantial similarity (Tr 3885-86).

The computer simulations were performed by the construction and interplay of three mathematical models (Tr 2987-88) which purported to represent (1) the Perma anti-skid device (PX 134, 135), (2) the vehicle upon which it was mounted (PX 132, 133, 133A) and (3) the frictional characteristics of the tire-road interface (PX 143). No foundation of substantial similarity was offered for these mathematical models individually or in combination.

The Perma model. "[T]he plaintiff retained DeVilliers to do computer simulations of the device *with the possible*

changes in components." (Op 41) (italics ours) Perma neither described nor provided specifications for "the possible changes in components" and never defined the effect that the changes might have had on simulated performance.

Expert opinion may not be based upon tests, experiments or mathematical computations which incorporate unspecified assumptions. *In re City of New York (Broadway Cary Corp.)*, 34 N.Y.2d 535, 536, 309 N.E.2d 870, 871, 354 N.Y.S.2d 100, 101 (1974); *Sparkill Realty Corp. v. State*, 268 N.Y. 192, 197 N.E. 192 (1935). Similarly, opinions based in whole or part upon changes or alterations which an expert assumed or believed could or should be made are inadmissible. *In re City of New York (Shorefront H.S. Rudnick)*, 25 N.Y.2d 146, 149, 250 N.E.2d 333, 334, 303 N.Y.S.2d 47, 50 (1969); *Cassano v. Hagstrom*, 5 N.Y.2d 643, 159 N.E.2d 348, 187 N.Y.S.2d 1 (1959); *Dipson Realty Co. v. State*, 39 App. Div. 2d 636, 331 N.Y.S.2d 186 (4th Dep't 1972).

Perma, however, went far beyond the mere incorporation of unspecified engineering changes; it simulated a completely hypothetical device which exists nowhere save in DeVilliers' mind. As Perma put it, the computer simulations represent DeVilliers' "analysis" as performed upon "a concept of an idea" that Perrino had for an anti-skid device (Tr 3885-86). In preparing the computer simulations DeVilliers:

" . . . did not test any specific piece of equipment to determine the performance characteristics of that particular piece of equipment, nor did he attempt to recreate a condition or situation as it existed in 1965 . . . the particular sizing of components is not important. The particular dimensions are not important here because the premise is that these could be changed." (Tr 3885-86)

No claim of foundation of substantial similarity can follow this concession by Perma's counsel.

Perma's analytical calculations on data purportedly representing a device which has never existed except as a "concept of an idea" are inadmissible because the data does not relate to facts established in the record. *Cassano v. Hagstrom*, 5 N.Y.2d 643, 159 N.E.2d 348, 187 N.Y.S.2d 1 (1959); *Sparkill Realty Corp. v. State*, 268 N.Y. 192, 196, 197 N.E. 192, 193 (1935); *Cooke v. Bernstein*, 45 App. Div. 2d 497, 500, 359 N.Y.S.2d 793, 796 (1st Dep't 1974). A representation by an expert witness that an image is "something like" an object, the characteristics of which are subject to dispute, "is patently insufficient basis for an expert opinion". *D'Amico v. Lloyd Brasileiro Patrimonial Nacional*, 354 F.2d 33, 34 (2d Cir. 1965); *Stracher v. Corning Glass Works*, 39 App. Div. 2d 560, 331 N.Y.S.2d 764 (2d Dep't 1972); *Graham v. Bd. of Educ.*, 19 App. Div. 2d 635, 241 N.Y.S.2d 71 (2d Dep't 1963).

The vehicle model. The Perma device was simulated on a mathematical model of a 1968 Ford Thunderbird (Tr 2983), a vehicle obviously not available in 1965. Moreover, the record reflects significant differences in braking performance between 1968 Thunderbirds and 1965 era automobiles. The computer simulations are therefore inadmissible as proof that results of similar computer simulations in 1965 would have justified the development program set forth by Goor.*

1968 Thunderbirds, for example, were equipped with split ratio brake proportioning valves unavailable on 1965 vehicles (Tr 3001-02, 6412). Split ratio brake proportioning was a major technical advance which distributed or proportioned brake line pressures at the front and rear wheels to enable each set of wheels to operate under more optimal conditions during maximum braking through a range of road surface conditions (Tr 3023; DX 689).

The utilization of a split ratio brake proportioning valve in the vehicle model was a significant difference in condi-

* Goor stated that if computer simulations did not show good results, his development program would come to a halt (Tr 2527).

tion which radically improved simulated performance of the Perma device over that which could have been obtained on a 1965 automobile not equipped with such a feature (Tr 6955-81; DX 683).

The friction model. Data and formulas purportedly representing simulated friction at the tire-road interface (PX 143) were disclosed for the first time at the very conclusion of DeVilliers' redirect examination (Tr 3926-26a). PX 143 was prepared during a luncheon recess from original documents physically present in Court (Tr 3926, 3928-30). Plainly, the conditions surrounding the preparation of PX 143 required disclosure of original foundation materials available at counsel's table. Nevertheless, Judge Duffy refused to compel disclosure of these original foundation materials (Tr 3928-30).

The friction data used in the computer simulations was based upon empirical data published in an article by General Motors in 1968 (Tr 3037-38; PX 136), more than three years after the relevant period.

In addition, the General Motors article candidly notes substantial errors (PX 136, pp 8-9) and warns that data in the 40-100% slip range, in which the simulated Perma device operated for the most part (PX 160, 161), is inaccurate (PX 136, p 8).

D. The Computer Simulations Are Inadmissible for Lack of Timely Notice and Pre-Trial Disclosure of Foundation Materials

Perma waited until the last possible moment, two months after the beginning of trial and four months after work on the computer simulations was commenced, to inform Singer that it was offering computer simulations as part of its affirmative case (Tr 2455-56). Perma compounded this error by steadfastly refusing to disclose foundation materials until selected input and output data were introduced on April 4, 1974, three months later.

Notice and disclosure of basic foundation materials, including "the raw data, the method and program employed in evaluating the data, and all the results derived (both favorable and unfavorable to the offering party)" are required far "in advance of trial as a condition of admissibility." *Manual for Complex Litigation* §§ 3.50, 2.717 (italics ours); *United States v. Russo*, 480 F.2d at 1241; *United States v. Dioguardi*, 428 F.2d at 1038; *Machine Prepared Studies*, C.S.L.R. § 5-4.2, at 8.*

This Court has stated that the presentation of complex scientific evidence at trial without notice and prior disclosure of foundation materials "smacks too much of a trial by ambush." *United States v. Kelly*, 420 F.2d 26, 29 (2d Cir. 1969). Singer was ambushed not once but repeatedly by Perma's silence in the face of its duty to provide notice and repeated refusals to disclose foundation materials. Singer was prejudiced by Judge Duffy's countenance of such trial tactics and his denial of Singer's request for a continuance to perform and offer computer simulations of its own (Tr 5868-69).

The computer simulations were inadmissible and Singer's motion to strike should have been granted. Goor's opinion testimony, offered and accepted "[o]n the basis of the computer simulations" (Op 42; Tr 2461-63), was thus erroneously admitted. *J. Gerber & Co. v. S.S. Sabine Howaldt*, 437 F.2d 580, 593-94 (2d Cir. 1971); *Syracuse Broadcasting Corp. v. Newhouse*, 319 F.2d 683, 688 (2d Cir. 1963); II J. WIGMORE, EVIDENCE § 680 (3d ed. 1940).

In view of Perma's failure to prove perfectibility or commercial utility, the judgment of liability and the award of damages are error. *Peck v. Shell Oil Co.*, 142 F.2d 141 (9th

* The same rule pertains to tests and experiments. *Fortunato v. Ford Motor Co.*, 464 F.2d 962, 966 (2d Cir.), cert. denied, 409 U.S. 1038 (1972); *Weaver v. Ford Motor Co.*, 382 F. Supp. 1068 (E.D. Pa. 1974); *Balian v. General Motors*, 121 N.J. Super. 118, 130-31, 296 A.2d 317, 323-24 (N.J. App. Div. 1972); MCCORMICK ON EVIDENCE § 202 at 487 n.21.

Cir. 1944); *Kraus v. General Motors Corp.*, 120 F.2d 109 (2d Cir. 1941); *Neenan v. Otis Elevator Co.*, 194 F. 414 (2d Cir. 1912); *United States v. Combustion Engineering, Inc.*, 364 F. Supp. 181, 186 (D. Conn. 1972). The complaint should be dismissed for plaintiff's failure to sustain its burden of proof at trial. *Williams v. The Babcock & Wilcox Co.*, 262 F.2d 253, 258-59 (3d Cir.), *cert. denied*, 359 U.S. 969 (1959).

POINT THREE

The Court Below Erred in Awarding Damages Which Are Purely Speculative

Assuming *arguendo* that the finding of liability was proper, Judge Duffy erred in awarding other than nominal damages, for damages in this action are purely speculative. Speculative damages may not be awarded. *Lowenschuss v. Kane*, 520 F.2d 255, 269 (2d Cir. 1975) (*dictum*); *Freund v. Washington Square Press, Inc.*, 34 N.Y.2d 379, 314 N.E.2d 419, 357 N.Y.S.2d 857 (1974); *Broadway Photoplay Co. v. World Film Corp.*, 225 N.Y. 104, 121 N.E. 756 (1919) (Cardozo, J.).

Two alternative reasons compel the conclusion that damages in the present case are speculative. First, Perma has failed to meet its burden of showing that Singer's alleged breach caused any injury whatsoever because plaintiff has failed to prove the existence of a market for the redesigned device. Second, Perma has failed to provide a reasonable basis for calculating the extent to which the redesigned device could have been sold in any market. Evidence as to the cost, price, performance and safety of the redesigned device is so lacking as to preclude any valid determination of its sales.

The reliance of the Court below on certain 1964 sales projections as providing a reasonable basis for determining lost sales of the redesigned device was clearly improper. Those projections do not relate to the redesigned device,

but to the unperfected device which had a different cost and price. Moreover, these projections have been discredited by the actual sales history of technically superior electronic anti-skid devices which have been commercially available since late 1968.

A. Any Award of Damages in the Present Case Would Necessarily Be Speculative, For Plaintiff Has Not Met Its Burden of Showing the Existence and Extent of a Market For the Redesign Perma Device

Plaintiff Has Failed to Prove the Existence of a Market For the Redesign Device

Plaintiff has the burden of proving that its damages are not speculative. *Broadway Photoplay Co. v. World Film Corp.*, 225 N.Y. 104, 121 N.E. 756 (1919) (Cardozo, J.). This burden includes proving the "fact" of damages, *i.e.*, that Singer's alleged breach of the December contract necessarily resulted in injury to Perma. Plaintiff's burden in this regard is stringent, for uncertainty as to the fact of damages is not to be cast on a wrongdoer. *Simon v. New Haven Board & Carton Co.*, 516 F.2d 303, 306 (2d Cir. 1975). Instead, uncertainty as to the fact of damages precludes recovery. *Friedman v. Golden Arrow Films, Inc.*, 442 F.2d 1099, 1107 (2d Cir. 1971); *James Wood General Trading Establishment v. Coe*, 297 F.2d 651, 658 (2d Cir. 1961).

Where, as in the present case, damages are sought for lost profits relating to sales of a product, proof of the fact of damages necessarily includes proof that a market exists for that product. As this Court has held, failure to establish a definable market for a new product precludes the award of substantial damages. *Friedman v. Golden Arrow Films, Inc.*, *supra*.

In *Friedman*, the parties entered into a partnership agreement pursuant to which plaintiffs agreed to transfer to the partnership their property interest in sever. short-

subject children's films and defendant agreed to produce, distribute and finance two feature length children's films from the group of short-subject films. Finding that defendant had breached its obligations, the district court awarded damages including \$40,000 for loss of prospective profits.

Although plaintiffs had introduced proof, and the district court had found as fact, that children's films based upon classic fairy tales have a relatively stable market, the Second Circuit found that "a number of unresolved contingencies remain which would have determined the ultimate success of the venture." *Friedman v. Golden Arrow Films, Inc.*, 442 F.2d at 1107. Variables such as whether or not the films were usable on television "were not defined with the degree of certainty to permit this court to conclude that a profit was realizable." *Id.* Stating that there was "serious doubt as to whether there is presently, or will be in the immediate future, a definable market for children's animated films," this Court reversed the district court's award of damages for loss of prospective profits. *Id.*

In the present case, as in *Friedman*, plaintiff has failed to prove with the requisite degree of certainty that a market exists in which a profit would be realizable. Perma has failed to prove sufficient facts about the redesigned device to make any valid determination of its marketability.

Although Judge Duffy found that the Perma device "could have been perfected and made marketable" (Op 42), he made no finding whatsoever describing the device which would have resulted from Goor's hypothetical 15 month program. The absence of such findings is not merely an oversight, but rather a reflection of the evidentiary vacuum upon which Judge Duffy based his conclusion as to the marketability of the hypothetical device. The record contains no model, no drawing, and not even a verbal description of the redesigned device. Perma has failed, for example, to prove its cost, price, performance standards or safety standards.

Two critical unknowns are cost and price. Judge Duffy recognized that there had been "inadequate proof" as to the manufacturing costs of the redesigned device (Op 57).^{*} Absent proof of manufacturing costs, there is no basis for estimating the price at which Singer might profitably have sold the redesigned device to distributors or original equipment manufacturers and the price at which the device might profitably have been sold to the public.

No reasonable conclusion as to the marketability of the redesigned device could have been drawn without evidence as to its price. The absence of this proof in and of itself creates sufficient "unresolved contingencies * * * which would have determined the ultimate success of the venture" to require reversal of the damage award of the Court below. *Friedman v. Golden Arrow Films, Inc.*, 442 F.2d at 1107.

Perma has not, however, failed merely to prove the cost, price and performance characteristics of the redesigned device. It has also failed to prove the very existence of either an aftermarket or an OEM market for the redesigned Perma device.

The award by the Court below of damages in the aftermarket of \$2,962,256.97 plus interest for lost royalties on postulated sales of 974,591 redesigned devices was clearly erroneous. The record conclusively establishes that there is no aftermarket for any anti-skid device, including the redesigned Perma device. Although anti-skid devices containing "electronic improvements" (Op 42) over the mechanical Perma unit have been developed and, since late 1968, sold as original equipment on certain models of automobiles,** no such anti-skid device has *ever* been sold in the aftermarket (*see* Op 42, 49; Tr 6998, 7425-26, 7777).

^{*} Perma's proof on this point was not merely "inadequate"; it was nonexistent.

^{**} Ford sold a Kelsey-Hayes device as standard equipment on the Mark III/IV (model years 1969-1974) and as optional equipment on the Thunderbird (model years 1969-1974), Lincoln Conti-

Kelsey-Hayes and Bendix, which have sold a combined total of 251,493 electronic anti-skid devices in the OEM market through March, 1974 (Ct X 6), also sell automotive parts and equipment in the aftermarket. Common sense compels the conclusion that if a profitable aftermarket for anti-skid devices were to exist, these companies would have entered and exploited it.

At the least, there is uncertainty in the record as to the existence of an aftermarket for the redesigned Perma device. In view of such uncertainty, "the existence of any damage whatever would have to be a matter of guesswork" and Judge Duffy's award of \$2,962,256.97 plus interest for royalties on lost sales in the aftermarket should be set aside. *James Wood General Trading Establishment v. Coe*, 297 F.2d at 658; accord, *Friedman v. Golden Arrow Films, Inc.*, 442 F.2d at 1107.

Similarly, there is no basis in the record for a finding that the redesigned Perma device would have achieved any sales in the OEM market. At trial Perma offered no proof whatsoever as to the existence of such a market for the redesigned Perma device. In fact, Perma has implicitly conceded the lack of an OEM market, for it did not even contend in its extensive post-trial memorandum (which was in excess of 200 pages and contained numerous damage calculations) that OEM market damages should be awarded. Yet Judge Duffy awarded damages of \$2,371,166.97 plus interest for royalties on postulated lost sales of 821,991 redesigned devices in the OEM market.

The evidence clearly establishes that each of the major automobile manufacturers evaluated and rejected an early

nent (model years 1970-1974), and Mercury (model years 1972-1974). Chrysler sold a Bendix device as optional equipment on the Imperial for the model years 1971-1973. General Motors sold its own device as optional equipment on the Oldsmobile Toronado (model years 1970-1974), Cadillac (model years 1972-1974), and Cadillac El Dorado (model years 1970-1974) (Ct X 6, received in evidence at Tr 7703-04).

version of the Perma device (Op 17; DX 12; PX 25A, 57). Moreover, both Ford and Kelsey-Hayes again tested and evaluated the Perma device in 1966 and rejected it (Tr 3328; DX 336; DX 335 for id, DX 337 for id).^{*} According to Perrino, by 1964 the OEM's were prejudiced against the Perma device because they were developing their own devices (Tr 6104-06; *see* PX 57, p 6).

By April, 1966, the completion date for Goor's 15 month development program (Tr 2541-42),^{**} the major automobile manufacturers were already involved in developing the superior electronic anti-skid devices (Tr 7730; *see* Tr 6320-21). Such devices were sold as early as 1968 on 1969 model Ford cars, 1969 on 1970 model General Motors cars, and 1970 on 1971 model Chrysler cars (Tr 2297; Ct X 6).^{***}

Perma has, therefore, failed to prove the existence of any aftermarket or OEM market for the redesigned mechanical Perma device. Inasmuch as the fact of damages has not been established, we respectfully submit that the damage award of the Court below should be set aside as speculative.

Plaintiff Has Failed to Provide a Reasonable Basis For Calculating the Extent of Sales in Any Market

Assuming *arguendo* that plaintiff has proven the existence of a market for the redesigned mechanical device, any

^{*} DX 335 for id and DX 337 for id were offered in evidence, but were erroneously rejected (Tr 3318-19, 3322-26, 3361-62, 5228-29, 5245, 5246-47).

^{**} Because the OEM plan their product lines far in advance, it takes approximately three years from the time that the product is added to the development cycle until it appears on a model line (Tr 7735-36, 7740-46, DX 10, p 4). Consequently, if the redesigned Perma device were available in April, 1966, it could not have been sold by the OEM until 1969 for the 1970 model year.

^{***} American Motors, the fourth major automobile manufacturer, has never sold an anti-skid device (*see* Ct X 6).

damage award would nevertheless be speculative.* Even where a market has been shown, plaintiff has the burden of proving a reasonable basis for calculating the extent of sales in that market. *Gruber v. S-M News Co.*, 126 F. Supp. 442 (S.D.N.Y. 1954); *Freund v. Washington Square Press, Inc.*, 34 N.Y.2d 379, 314 N.E.2d 419, 357 N.Y.S.2d 857 (1974); *Broadway Photoplay Co. v. World Film Corp.*, 225 N.Y. 104, 121 N.E. 756 (1919) (Cardozo, J.). Where, as in the present case, plaintiff has failed to meet this burden, damages for loss of prospective royalties may not be awarded. *Freund v. Washington Square Press, Inc.*, *supra*; *Broadway Photoplay Co. v. World Film Corp.*, *supra*; *Hewlett v. Caplin*, 275 App. Div. 797, 88 N.Y.S.2d 428 (1st Dep't 1949), *aff'd without opinion*, 301 N.Y. 591, 93 N.E.2d 492 (1950); *see Spitz v. Lesser*, 302 N.Y. 490, 99 N.E.2d 540 (dictum) (1951).

The recent New York Court of Appeals decision in *Freund v. Washington Square Press, Inc.*, *supra*, illustrates this principle. In *Freund*, plaintiff, an author, entered into a contract with the defendant publisher to publish and sell plaintiff's manuscript. Pursuant to this contract, defendant was to pay royalties to plaintiff based upon specified percentages of sales. Defendant failed to publish the manuscript and plaintiff brought suit claiming, *inter alia*, damages for loss of prospective royalties. The trial court found defendant liable and awarded damages to plaintiff on the basis of the cost of publication. The Appellate Division affirmed.

Upon appeal, the New York Court of Appeals reversed. Despite defendant's clear liability for breach of the contract, it reduced the damage award to a nominal six cents. With respect to plaintiff's claim for lost royalties, the court stated:

* The fallacy of Judge Duffy's reliance on the 1964 sales projections for the original Perma device as proof of the market for the redesigned device will be discussed in Point Three B, *infra*.

"His expectancy interest in the royalties—the profit he stood to gain from sale of the published book—while theoretically compensable, was speculative. Although this work is not plaintiff's first, at trial he provided no stable foundation for a reasonable estimate of royalties he would have earned had defendant not breached its promise to publish. In these circumstances, his claim for royalties falls for uncertainty. (Cf. *Broadway Photoplay Co. v. World Film Corp.*, 225 N.Y. 104; *Hewlett v. Caplin*, 275 App. Div. 797.)" 34 N.Y.2d at 383, 314 N.E.2d at 421, 357 N.Y.S.2d at 861.

As in *Freund*, plaintiff in the case at bar has "provided no stable foundation for a reasonable estimate of royalties" it would have earned but for Singer's alleged breach of the December contract.

Perma's lack of proof as to the manufacturing cost and consequent price of the redesigned device is alone sufficient to render any determination of the extent of prospective sales speculative. Even the Court below recognized that cost is directly related to the marketability of a device (Tr 1379). In Judge Duffy's words, it would be "in the world of Alice in Wonderland" to give an opinion as to how competitive a product would be without knowing its cost (Tr 7750-51). Yet Judge Duffy did precisely that.

In addition to the lack of proof as to the cost and price of the redesigned device, there are other significant absences of proof concerning the redesigned device which preclude any valid determination of the extent of its potential sales. Perma has, for example, failed to prove the level of either performance or fail safety of the redesigned device, other than to have its expert opine that the redesigned device could have met unquantified standards of marketability (Tr 2443-50).

The damage award of the Court below is similar to that in *Hewlett v. Caplin*, 275 App. Div. 797, 88 N.Y.S.2d 428 (1st Dep't 1949), *aff'd without opinion*, 301 N.Y. 591,

93 N.E.2d 492 (1950). Unanimously reversing the lower court's award, the Appellate Division stated:

"The verdict for plaintiff in the sum of \$9,000 as damages is wholly speculative and without any basis in the evidence. Plaintiff claimed one half of 10% of an unknown retail selling price on an unknown number of copies of a nonexistent book, and a percentage of unknown proceeds from the nonexistent sale of book rights of a book never written or never published. Whether the book would have met with public favor was entirely conjectural. Without a factual basis for computing the amount of the prospective royalties plaintiff could not recover compensatory damages." 275 App. Div. at 797-98, 88 N.Y.S.2d at 428-29.

As Judge Duffy conceded, "lost profits in a new venture are not ordinarily recoverable (*Cramer v. Grand Rapids Show Case Co.*, 223 N.Y. 63, 11th N.E. 227 (1918))" (Op 45). In view of the uncertainty in the record as to both the existence and the extent of a market for the redesigned device, Judge Duffy erred in deviating from this general rule.

B. The Court Below Erred in Awarding Damages on the Basis of Speculative Sales Projections Which Related to a Different Device and Were Contradicted by Later Events

Judge Duffy erroneously relied on the sales projections contained in the October 21, 1964 memorandum by R. A. Kloby of Singer as providing a reasonable basis for determining damages (DX 191, pp 2-10).*

*The Kloby memorandum projects sales of the original Perma device at 50,000 for the first year (1965), 100,000 for the second year (1966) and 200,000 for each of the three succeeding years (1967-1969) (DX 191, p 6). These projections were reiterated in Hough's December 11, 1964 memorandum to Kircher (PX 59) and Torello's December 21, 1964 memorandum to Marsden (PX 120) (see Op 53).

On the basis of these projections, Judge Duffy found that the redesigned device would have sold as follows: 1965-none; 1966-50,000;

Two major reasons compel this conclusion. First, the Kloby projections related to the 1964 version of the Perma device rather than to the redesigned device and were based upon assumptions which have no validity with respect to the redesigned device. Second, the Kloby projections have been totally contradicted by the actual sales history of the improved anti-skid devices which came onto the market subsequent to the time that these projections were prepared.

The Projections Related to the 1964 Perma Device and Were Based Upon Assumptions Which Have No Validity With Respect to Sales of the Redesigned Device

Damages may not be based on sales projections predicated upon invalid assumptions. *See Herman Schwabe, Inc. v. United Shoe Machinery Corp.*, 297 F.2d 906 (2d Cir.), *cert. denied*, 369 U.S. 865 (1962). Furthermore, projected sales of one product cannot constitute a reasonable basis for predicting sales of another product without a showing of similarity of the two products and of the assumptions underlying the two projections. *See Gruber v. S-M News Co.*, 126 F. Supp. 442 (S.D.N.Y. 1954); *K.&R. Film Co. v. Brady*, 104 Misc. 667, 172 N.Y.S. 268 (App. T. 1st Dep't 1918).

Judge Duffy's award of damages on the basis of the Kloby projections contravenes the above principles. The Kloby projections do not pertain to the redesigned device, but rather to the 1964 version of the Perma device. Kloby assumed manufacturing costs of \$30 per unit and a selling price of \$51 per unit during the year 1965 (DX 191, p 8).

1967-102,600; 1968-210,907; 1969-218,921; 1970-226,583; 1971-232,248; 1972-243,164; 1973-251,675; and 1974-260,484 (Op 57-58).

The increase in the figures for the period 1966-1969 over those in the Kloby projections reflects the Court's addition for "market expansion" based on increased automobile registration (Op 56-58). The figures for the period 1970-1974 reflect an extension of Kloby's projected sales of 200,000 units for each of the preceding two years, plus an increment for market expansion (Op 53, 57-58).

These assumptions do not apply to the redesigned device, as to which there was no proof of manufacturing costs or selling price.

All that can safely be assumed about costs and selling price of the redesigned device is that they would have been higher than those of the 1964 device. In addition to the substantial expense of Goor's redesign program, major changes in automobile design since 1964 (such as dual braking systems in 1967) would have increased the cost and price of the redesigned device (Tr 2886-88, 7712).

Judge Duffy's finding that the manufacturing costs and the selling price of the redesigned device would have remained constant over the ten year term of the December contract (Op 57-58) ignored such obvious factors as the cost of perfecting the device, the need to accommodate changing automobile design, and inflation. In view of the inapplicability to the redesigned device of the cost and price assumptions underlying the 1964 projections, Judge Duffy erred in relying upon the Kloby projections.

Moreover, Judge Duffy compounded his error by extending the projections for five years beyond the period stated therein. See *Walter Janvier, Inc. v. Baker*, 229 App. Div. 679, 681, 243 N.Y.S. 173, 175 (1st Dep't 1930); *Isaac H. Blanchard Co. v. Rome Metallic Bedstead Co.*, 184 App. Div. 187, 193, 171 N.Y.S. 890, 893-94 (1st Dep't 1918). As the court stated in *Blanchard, supra*:

"We agree with the contention that the damages sought to be recovered for the alleged breach of this contract were so problematical and speculative and depended upon so many elements which the future alone could disclose, that the fixing of any definite sum as recoverable was quite impossible. The mere fact that for the first or second year of the contract a profit might have been made, is no basis for finding that similar (or any) profits would have been made for the remaining eighteen years of the term. The factors which would enter into the computation as to

future profits are quite impossible of present ascertainment." 184 App. Div. at 193, 171 N.Y.S. at 893-94.

The Projections Have Been Contradicted by the Actual Sales History of Technically Superior Devices

The Kloby projections were inherently unreliable* and have been contradicted by the sales history of technically superior electronic devices.

The fact that none of the superior devices has ever been sold in the aftermarket demonstrates the invalidity of the Kloby projections as to extensive aftermarket sales.

With respect to OEM market sales, Judge Duffy's reliance on the Kloby projections was also misplaced. The purported basis of Judge Duffy's award of \$2,371,166.97 (plus interest) for royalties on lost sales of 821,991 units to the OEM market was the Kloby projections (Op 53, 57-58), but the Kloby projections do not even relate to the OEM market.**

* Singer personnel questioned the reliability of the Kloby projections even at the time they were made. Torello of Singer's financial department wrote to Marsden, his superior, with respect to the Kloby projections:

"Perma has sold only 1,000 units to date. The achievement of sales projections may be a high risk situation in light of the projected retail price, the uncertainty of the marketing arrangements, the quality problems existing on the units sold to date and the limited results achieved to date." (PX 120, p 3)

** Kloby's October 21, 1964 memorandum (DX 191, pp 2-10) utilizes a royalty schedule based only on aftermarket sales ["Original equipment manufacturers' sales are subject to a separate negotiations" (DX 191, p 3)] and states that the royalty schedule will be "shown in detail in a later exhibit." (DX 191, p 4) Two later exhibits, Hough's December 11, 1964 memorandum to Kircher (PX 59) and Torello's December 21, 1964 memorandum to Marsden (PX 120) confirm that only aftermarket sales were contemplated, for they utilize the 10% royalty rate applicable only to aftermarket sales (PX 59, pp 4, 7 (pro forma statement); PX 120, p 5 (pro forma statement); see PX 60A, ¶ 3(c)).

Even if the Kloby projections had related in part to the OEM market, the Court's OEM damage award would nevertheless be improper, for it is contradicted by the actual sales history of competitive devices in the OEM market.

Judge Duffy's postulated sales in the OEM market compare with the actual sales of anti-skid devices in the OEM market as follows:

YEAR	PROJECTED OEM MARKET SALES	ACTUAL OEM MARKET SALES*		
	Redesigned Perma Device (Projected Sales)	Kelsey-Hayes Device (Sold to Ford)	General Motors Device	Bendix Device (Sold to Chrysler)
1968	105,453½	—	—	—
1969	109,460½	1,840	—	—
1970	113,291½	26,272	602	—
1971	116,124	32,744	3,108	263
1972	121,582	56,916	6,050	632
1973	125,837½	81,002	8,448	596
1974** ...	130,242	51,228	5,460	— ***
Total ..	821,991	250,002	23,668	1,491

* The actual OEM sales figures are based on the appendices in Ct X 6, with clarification of a typographical error at Tr 7438-40. These figures are reflected by model year, rather than by time of sale. For example, sales in late 1968 of 1969 model cars would be indicated as 1969 sales.

** The actual OEM sales figures for model year 1974 include only sales through March 31, 1974.

*** Beginning with the 1974 model year, Chrysler discontinued sales of anti-skid devices.

Thus, Judge Duffy found that during the years 1968-1974 the redesigned Perma device would have sold a total of 821,991 units in the OEM market (Op 57-58)—three times the volume of 275,161 units actually achieved by the combined efforts of Kelsey-Hayes, General Motors and Bendix.

The fallacy of Judge Duffy's findings is further illustrated by the fact that of the 275,161 units actually sold, 211,772 were sold on the Lincoln Continental Mark III/IV as *standard equipment*—that is, the buyer had no choice but

to take the device (Tr 7458; Ct X 6). Although the devices were offered as optional equipment on Thunderbirds, Lincoln Continentals, Chrysler Imperials, Oldsmobile Toronados and Cadillacs (pp 49-50, *supra*), only 63,389 car buyers elected to purchase it (Tr 7458; Ct X 6).

In view of the inapplicability of the Kloby projections to sales of the redesigned device and in view of the actual sales history of competitive devices, Judge Duffy's damage award based on those projections should be set aside.

C. Even if the Projections Were Relevant to Sales of the Redesigned Device, They Were Misapplied by the Court Below

Although we do not believe that the Kloby projections constitute a reasonable basis for determination of the extent of damages, we nevertheless point out that Judge Duffy erred even in his reading of the Kloby projections and related documents.

First, as noted above, there is no basis in the Kloby projections for Judge Duffy's award of damages (\$2,371,166.97, plus interest) for royalties on lost sales of 821,991 units in the OEM market because the projections did not relate to that market (*see* p 57, *supra*).

Second, there is no basis for Judge Duffy's addition to each of the Kloby figures after the first year of a number of units based on "market expansion as reflected in the increased auto registration for each of the relevant years" (Op 56; *see* Op 56-58), because Kloby had already taken this "increase" auto registration into account. The Kloby projections were based on existing car registrations, together with "Annual new car production—7.5 Million" (DX 191, p 6). The Court's additions to the Kloby figures total 246,582 units, increasing the damage award by \$673,593.94, plus interest.

Third, in view of Goor's 15 month development program, Judge Duffy erred in awarding damages for postu-

lated sales commencing in January, 1966. In no event could such sales have commenced prior to the completion of the hypothetical development program in April, 1966. This error increased the damage award by \$63,750, plus interest.

Fourth, Judge Duffy was wrong in finding that the factory invoice price per unit on which royalties were to be based was \$51 (Op 56). The \$51 figure, which Judge Duffy took from Singer's January 18, 1965 contract with Monitor, refers to the 1965 "purchase price" rather than to the "factory invoice price" (PX 64, ¶ 7). To determine the factory invoice price, it is necessary to subtract the 8 percent federal excise tax from the purchase price. As the December contract provides:

"'factory invoice price' means invoice price less (to the extent included in such invoice price) Federal excise tax, sales tax, discounts and shipping costs."
(PX 60 A, ¶ 3(a))

The \$51 purchase price already includes the 8 percent federal excise tax (PX 59, 120). The December 11, 1964 memorandum from Hough to Kircher states:

"3. Units would be sold by Elizabeth to Monitor at \$51.00 per unit, *including \$3.80 Federal Excise Tax.*" (PX 59, p 5) (italics ours)

Note also the pro forma income statements attached to the Hough memorandum (PX 59, p 7) and to Torello's December 21, 1964 memorandum to Marsden (PX 120, p 5).*

The 8 percent federal excise tax (\$3.78)** must, therefore, be subtracted from the \$51 figure to determine the

* In these pro forma statements, the projected dollar sales for 1965 are calculated by multiplying the projected 50,000 units by the \$51 figure. The 8 percent federal excise tax is then subtracted to determine the "Net Sales". Royalties are calculated based on a percentage of the "Net Sales" after subtraction of the 8 percent federal excise tax.

** In fact, proper calculation of the 8 percent tax results in \$3.78 rather than \$3.80. This 2 cent difference does not, however, affect the payable royalties because of rounding off.

1965 factory invoice price, which would be \$47.22. Using the \$47.22 figure (rather than the \$51 figure) for the calculation of royalties reduces the damages awarded by \$399,129.62 principal, plus interest assuming, as Judge Duffy did, that the factory invoice price remained constant.

The documents upon which Judge Duffy relied indicate, however, that the invoice price was expected to drop to \$48.50 after the first year of production (PX 59, p 7; PX 120, p 5). This \$48.50 invoice price also includes 8 percent federal excise tax (PX 59, p 7; PX 120, p 5). Subtraction of the 8 percent tax from the \$48.50 figure leads to a factory invoice price of \$44.91 for the years 1967-1974. Using the \$47.22 figure for 1966 and the \$44.91 figure for 1967-1974 reduces the damages awarded by \$641,748.62 principal, plus interest.

Although we strongly contend that damages should not have been awarded because they are purely speculative and that the Kloby projections do not afford a reasonable basis for the calculation of damages, we nevertheless submit that the Court below misapplied the Kloby projections.

CONCLUSION

The judgment below should be reversed and the complaint dismissed either because:

(1) It was error to deny Singer's motion for summary judgment in view of Perma's contentions that Singer had no obligation to redesign the device (pp 15-18, *supra*); or

(2) It was error to find that Singer breached an implied contractual obligation imposed upon it contrary to the intention of the parties (pp 19-28, 29-31 *supra*); or

(3) It was error to find liability and award damages against Singer based upon a finding that the device could have been perfected and made marketable, which finding was in turn based upon the

results of computer simulations erroneously admitted in evidence without proper foundation (pp 32-46, *supra*); or

(4) It was error to award damages based on speculative sales of a nonexistent device in markets in which subsequent history has shown the device could not have been successfully sold (pp 46-59, *supra*).

In the alternative, the judgment below should be reversed and the case remanded for a new trial because of the erroneous exclusion by the Court below of relevant evidence (pp 28-29, *supra*).

Respectfully submitted,

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Dated: October 8, 1975

